

ABSTRACT

The present invention is generally directed towards a system for reagent-free determination of the concentration of an analyte *in vivo*. The system comprises a light transmitter for generating monochromatic primary light, a scattered-light percutaneous sensor which includes an inbound light guide and a detection light guide, a wavelength-selective detection device that is connected to the detection light guide for detection of Raman-scattered components of the secondary light and an evaluation device for determining the concentration of the analyte from the Raman-scattered components of the secondary light.